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10/750868

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L22 and ((analy\$ or diagnos\$) with data)	14

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<u>L22</u>	L14 and (transmit\$ with (data or information))	14	<u>L22</u>
<u>L21</u>	L14 and (fault with (data or information))	0	<u>L21</u>
<u>L20</u>	L19 and (fault with (data or information))	2	<u>L20</u>
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<u>L12</u>	L1 and anten\$	0	<u>L12</u>

<u>L11</u>	L1 and antenna	0	<u>L11</u>
<u>L10</u>	L1 and (transmit\$ with (means or device or apparatus or unit))	0	<u>L10</u>
<u>L9</u>	L1 and (transmit\$)	1	<u>L9</u>
<u>L8</u>	L1 and beacon	1	<u>L8</u>
<u>L7</u>	L1 and (locat\$ with (transmit\$ or communicat\$))	0	<u>L7</u>
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<u>L5</u>	L1 and (portab\$ or remov\$)	1	<u>L5</u>
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<u>L3</u>	6339736.pn.	1	<u>L3</u>
<u>L2</u>	6339736.pn.L1	2	<u>L2</u>
<u>L1</u>	6115656.pn.	1	<u>L1</u>

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L5: Entry 1 of 1

File: USPT

Sep 5, 2000

DOCUMENT-IDENTIFIER: US 6115656 A

TITLE: Fault recording and reporting method

Abstract Text (1):

A method for recording and reporting fault information pertaining to various components of an aircraft. The method involves recording a diverse plurality of information output from various line replaceable units (LRU's) and other components of the aircraft during takeoff, flight and landing through the use of a bulk storage device, such as an optical quick access recorder (OQAR), on an electronic medium. The electronic medium is then removed from the aircraft after landing and read by an appropriate apparatus. From this information a service technician is able to determine whether or not a fault indication recorded during flight is in fact a legitimate fault requiring the affected LRU to be removed from the aircraft for further diagnostic testing. The method significantly reduces the incidents of no-fault-found diagnostic test results and saves significant man hours which would otherwise be spent testing LRU's and other components which are in fact operating properly. Alternative embodiments of the method disclose making all information from the LRUs available and using multiple overlays to systematically reduce the data to

Brief Summary Text (10):

Up until the present time, information recorded by the optical quick access recorder has only been used to generate information which indicates whether or not signals from the LRU's and other components of the aircraft are indicating fault conditions. Put differently, the information provided by the optical quick access recorder has not been used to determine if the fault indication is in fact a spurious fault indication. Up until the present time, information obtained from the optical quick access recorder generally has required highly trained service personnel to first interpret that a fault condition exists with a certain LRU or other component of the aircraft, and then either perform on-board testing that utilizes the aircraft as a test device or physically remove the effected component from the aircraft for diagnostic testing. Sometimes, diagnostic testing may not identify a problem with the LRU or other component. Often, the diagnostic testing of a removed LRU can consume several hours by a highly trained service person in an effort to determine the cause of the fault indication. In some instances, the effected LRU or component is eventually reinstalled in the aircraft without ever being able to determine what caused the initial fault indication. This has led to high "cannot duplicate" ("CND") and/or "no-fault-found" ("NFF") rates for various LRU's and other components.

Brief Summary Text (12):

It would therefore be highly desirable to provide some method of analyzing and automatically reporting information for making a preliminary determination as to whether a fault indication provided by an LRU or other component of an aircraft is in fact a legitimate fault indication which will require further diagnostic testing of the LRU or affected component, or which is a spurious fault indication. In the case of a spurious fault indication, the LRU or component under investigation would not have to be either tested on-board the aircraft utilizing the aircraft as a test

device or removed from the aircraft and subjected to several hours of testing in an effort to duplicate the fault condition or to find a malfunctioning subcomponent or subassembly of the LRU or other component. Accordingly, such a method could significantly reduce the instance of wasted man hours attributed to both on and off-aircraft testing of LRU's and other components of an aircraft which are, in fact, in perfect working order, but which have provided output signals which may indicate that same are not operating properly.

Brief Summary Text (14):

It would also be desirable to provide a method for recording and analyzing information from an aircraft which can quickly enable service personnel to determine if one or more LRU's of the aircraft or other components need to be removed for further diagnostic testing, and which also enable qualified service personnel to quickly determine if information from an LRU or other component which appears to suggest a fault condition is in fact explained by the presence of other signals which verify to the service person that no fault condition exists with the particular LRU or component under investigation. Most preferably, this failure filtering technique would be automatically reported to service personnel.

Brief Summary Text (17):

The above and other objects are provided by a preferred fault recording and reporting method in accordance with the present invention. The method involves using a mass storage device such as an optical quick access recorder (OQAR), wherein the electronic medium is easily removed from the aircraft without requiring aircraft power or specialized equipment or skills. The electronic medium monitors and records a large and diverse plurality of output signals from line replaceable-units (LRU's), actuators, valves, sensors and other various components of an aircraft (in real time). Information is recorded on an optical storage disc which is read by an appropriate optical disc reader associated with a personal computer after a mission flight is accomplished. The information is manipulated by software in the personal computer and presented to the user in a user-friendly format allowing the user to quickly verify whether or not a recorded fault indication is in fact a legitimate fault. By making an automated determination immediately after the flight or mission is accomplished, significant time can be saved by avoiding on-board testing or manually removing one or more LRU's or other components from the aircraft and performing extensive testing merely because a component has provided a signal during flight which is indicative of a fault condition, but which component is, in fact, operating correctly.

Brief Summary Text (18):

The method of the present invention permits a user to view a report from recorded mass storage device data made during a flight which would indicate that a fault condition exists, but which because of other recorded information presented to the user, would indicate to the user that in fact no fault condition occurred. Thus, it can be determined, before any service operations are performed on the aircraft, which components in fact do need to be removed for further testing and/or service and which components may be operating satisfactorily regardless of fault indication signals that they may have provided during a flight. The method of the present invention can therefore serve to drastically reduce the no-fault-found occurrences typically experienced with present day diagnostic and servicing procedures.

Detailed Description Text (6):

After the flight of the aircraft 10 has concluded, the optical disc 20 is removed from the OQAR 18 and read by an optical disc reader 22 associated with a personal computer 24. The personal computer 24 is used with conventional data base software such as "FoxPro.RTM." available from Microsoft Corporation. The software is used to generate a database of information from which reports are generated relating to propulsion data recorded during flight, avionics flight instrument and navigation (AFIN) reports indicating faults with various LRU's and other components of the aircraft 10, and other information relating to the particular flight such as

altitude, aircraft speed, etc. over the course of the flight. It is a principal advantage of the method of the present invention that a high performance personal computer 24 is used to generate a large database of user readable information from which reports can be compiled which can be quickly read and interpreted by qualified service personnel or technicians familiar with the various operating components of the aircraft 10. The automated reports 26-30 generated by the personal computer 24, being in user readable form, allow various individuals responsible for maintaining proper operation of the various LRU's and components of the aircraft 10 to determine quickly and easily, after a mission flight is concluded, the pertinence of the information collected during the flight, and whether any LRU or other component has provided output signals indicating that same is not functioning properly.

Detailed Description Text (7):

With previously developed systems, several independent computers and several independent software programs were typically used to compile the information, in user readable form, necessary to make a determination as to whether or not one or more LRU's or other components had generated a fault signal. Typically, a "ground read-out equipment" (GRE) portable computer is required to download data from the SFDR. A dedicated lap top computer was also required for downloading information recorded in a mission computer (MC) of the aircraft. This required a highly-skilled technician to board the aircraft after the flight and manually couple a computer to either the mission computer or SFDR to obtain recorded LRU fault information or aircraft dynamic data, respectively. LRU subassembly failure data can also be downloaded from the LRU's by the use of numerous different interconnecting devices, such as power supplies, air-cooling and loads, and computers. Propulsion data was also generated independently through separate software. Thus, it will be appreciated that a significant degree of time was required by highly-skilled service persons, as well as numerous independent computer components, before the necessary information could be obtained for determining whether or not one or more LRU's or

Detailed Description Text (11):

Referring further to FIG. 2, the service technician makes a determination from the comparison carried out at step 36 as to whether or not any LRU or other component needs to be physically removed from the aircraft for further diagnostic testing and/or repair, as indicated at step 38. If this determination produces a "no" answer, then no further action is needed by the service technician. If the answer is "yes" to the test at step 38, the service technician knows that the fault indication is a legitimate fault indication, and the affected LRU or component is removed for diagnostic testing, as indicated at step 40. Note that following LRU or component removal, the fault data can be used to aid in off-aircraft troubleshooting.

Detailed Description Text (16):

Step 142 involves automatically reporting if the performance (and diagnostic) test (s) of the LRU which has generated a fault verifies the original aircraft fault, and therefore if the original reported fault indicates a legitimate hardware problem with the LRU. If a "no" answer results at this step, then it is determined that an LRU was incorrectly removed. This can occur for two reasons: 1) an incorrect preliminary assessment was made (i.e., the recorded data was reported erroneously and indicated a fault when none existed) or 2) the LRU did not have all its associated fault data recorded due to recording constraints, such as maintenance recorder memory map or bus throughput limitations. For the incorrect preliminary assessment, step 144 leads to an update of the step 138 reporting, or, more likely, the LRU will not have all associated fault data recorded and step 104 data recording optimization will be needed in connection with updated assessment reporting (138). This step 144 usage is outlined in greater detail in connection with the FIG. 5 flow chart.

Detailed Description Text (25):

At step 164, another determination is made if the new overlays created at step 162 will fit within the memory map of the maintenance recorder. If they will, then the information is recorded and another LRU is analyzed, as indicated at step 156. If not, then a pre-designated, least most important LRU parameter is removed, as indicated at step 166, and further overlays are again created and another attempt is made at recording the remaining LRU parametric data, as indicated at steps 158-164. Step 166 causes information relating to one parameter at a time to be removed, in an effort to enable overlays to be created which have a sufficiently limited number of data words such that same can be recorded in the memory map space available on the OQAR. In this regard it will be appreciated that each parameter of operation of an LRU for which parametric data is generated can be assigned a "priority". This enables that information which is predetermined to be least important or critical to the operation of the aircraft to be eliminated in accordance with the pre-established priority designations.

Detailed Description Text (28):

step 160. The 121/4 word overlay can then be further shared with another LRU overlay. This attempt, at representative FIG. 4, step 162, can then result in a "no" answer at step 164. While the deletion of one of 2,400 discretes can be performed at representative FIG. 4, step 166, FIG. 5, step 170, alternatively supports deletion of an entire level of LRU self-test data, or removal of the 20 self-test function discretes (for any of the 120 components). Thus, the first pass from FIG. 5, step 170, to step 168 is with 120 discrete bits, or 10 map words, for recording the 120 component self-test function summary results. Step 168 can result in a "no" for these 10 words, and step 170 is then performed a second time. This second pass is through step 170, or representative FIG. 4, steps 158-166.

Detailed Description Text (29):

At step 158 the 120 discretes are overlaid to 11 using the circuit board component hierarchical level for the example LRU: 4 circuit board summary bits (set if any of its 30 components fail), and the overlay consisting of seven coded bits representing which of the 120 components failed. At step 162, after a "no" to step 160, an attempt is made to further share the seven coded bits with other similar LRU components results. At step 166, after a "no" to step 164, the four circuit board discretes remain at the third step 168 attempt. If the LRU is very inexpensive (very low price, failure and removal rates, and test time), step 168 can result in a "no" at the third pass through step 170 (or representative FIG. 4 steps 158-166).

Detailed Description Text (39):

Furthermore, the alternative preferred method supports automatic execution, or continual improvement, of the methods of FIGS. 3-7 using a commercially available PC. This method for improvement is shown in FIG. 8. Similar to that discussed in FIG. 1, aircraft maintenance media 200 can be an optical disc removed from the OQAR 202 following the flight. The disk is then inserted into a PC 204 for automated reporting 206. A Digital Flight Data Management Unit (DFDMU) 208 can be used in the aircraft for alternate preferred method implementation, and either a PCMCIA card or an optical disk can comprise the maintenance media 200. The maintenance media 200 can be removed following the flight of an aircraft and then inserted into the PC 204 for automated reporting. The automated alternate preferred method assessment reporting 206 is shown as step 138 in FIG. 3. If either step 139, 142 or 146 of FIG. 3 result in a "yes", "no" or "yes", respectively, the report recipient 210 can then be informed that the PC 204 is automatically updating the maintenance map.

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L9: Entry 1 of 1

File: USPT

Sep 5, 2000

DOCUMENT-IDENTIFIER: US 6115656 A

TITLE: Fault recording and reporting method

Brief Summary Paragraph Table (1):

	System/Component (AF nomenclature)	Acronym
	Emergency Egress Sequencer	ES Aerial
Delivery Locks Control Panel	ADLCP	Cargo Delivery System Control-Status
Panel Aerial Delivery System Controller	ADSC	Aircraft Fault-Function Indicator
Panel AFFIP Sensor Signal Interface	SSI	Antiskid-Brake Temperature Monitor
Control Unit Electronic Engine Control	EEC	Electronic Engine Control (for Auxiliary
EEC Power) Auxiliary Power Unit Control Panel	APUCP	Environmental System-Fire
Detection ESFDCP Control Panel Temperature Control Panel	TCP	Environmental Control
System ECSC Controller Manifold Failure Detection Controller	MFDC	Cabin Pressure
Controller CPC Cabin Air Pressure Selector Panel	CAPSP	Windshield Anticing Control
Box WAICB Window Defogging Control Box	WDCB	Battery Charger no acronym
Control GC Electrical System Control Panel	ECP	(Electrical Control Panel) Static
Frequency Converter no acronym (60 Hertz Converter)		Static Power Inverter no
acronym Bus Power Control Unit	BPCU	Hi-Intensity Wingtip Lights Power no acronym
Supply (no AF nomenclature) Upper & Lower Beacon Light Power		no acronym Supply (no
AF nomenclature) Power Supply-Dimming Unit no acronym		Battery Charger Set no
acronym (Emergency Lighting Battery/Charger) Hydraulic System Controller	HSC	
Hydraulic System Control Panel	HSCP	Fuel System-Engine Start Control
Liquid Quantity Indicator	LQI	Ground Refueling Control Panel
Computer FQC Fluid Purity Controller	FPC	Bearing-Distance-Heading Indicator no
acronym Engine-Thrust Rating Panel Display	ETRPD	Signal Data Recorder no acronym
(Quick Access Recorder) (QAR) Standard Flight Data Recorder	SFDR	Propulsion Data
Management PDMC Computer (Aircraft Propulsion Data Management	(APDMC)	Computer)
Flight Control Computer FCC Actuator Flight Control Panel	AFCP	Automatic Pilot
Control-Indicator APCI Ground Proximity Warning Control	GPWCP	Panel Spoiler
Control-Electronic Flap SCEFC Computer Display Unit	DU	(Multi Function Display)
(MFD) Multifunction Control Panel	MCP	Air Data Computer
ADC Inertial Reference Unit		
IRU Head-Up Display Unit ("Glass-cockpit" HUDU Display)		Digital Computer
DC (Mission Computer) (MC) Display Unit (DU)	(Mission Computer Display)	(MCD) Data
Entry Keyboard	DEK	(Mission Computer Keyboard) (MCK)
Intercommunications Set		
Control ICSC Intercommunications station no acronym		Audio Frequency Amplifier no
acronym Public Address Set Control no acronym		Cordless Headset no acronym
Radio Receiver-Transmitter no acronym		CargoWinch Remote Control no acronym
Battery Charger no acronym		Communication-Navigation Equipment
CNEC Control Communications		Equipment Control
CEC Central Aural Warning Computer	CAWC	Warning And Caution
Computer WACC Warning and Caution Annunciator	WACAP	Panel Signal Data Converter
SDC		
Coder Decoder Keying Device	CDKD	Transponder Set Test Set no acronym
(I-Band Transponder Test Set)	(TTU)	

Detailed Description Text (4):

The APDMC 14 generates a large plurality of output signals which can be representative of dynamic aircraft data, propulsion data and real-time fault data. The dynamic aircraft data is recorded in a standard flight data recorder (SFDR) 16, as is well known in the aircraft industry. The APDMC 14 transmits output data that

ARINC 573 bus 15 can be recorded on an optical quick access recorder (OQAR) 18 on an optical storage medium 20. The OQAR 18 is also a commercially available item available such as from Teledyne Controls Corporation. The use of an optical disc for storage greatly increases the data storage capacity while significantly reducing the amount of lost data which could otherwise be experienced with a magnetic storage medium which is susceptible to drop outs and other well known limitations. The optical storage disc 20 has a storage capacity of at least about 120 mb, and preferably about 230 mb or higher.

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☐ 11. Document ID: US 6148179 A

L25: Entry 11 of 14

File: USPT

Nov 14, 2000

US-PAT-NO: 6148179

DOCUMENT-IDENTIFIER: US 6148179 A

TITLE: Wireless spread spectrum ground link-based aircraft data communication system for engine event reporting

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Summary	Claims	KWIC	Draw Data
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☐ 12. Document ID: US 6108523 A

L25: Entry 12 of 14

File: USPT

Aug 22, 2000

US-PAT-NO: 6108523

DOCUMENT-IDENTIFIER: US 6108523 A

TITLE: Wireless, frequency-agile spread spectrum ground like-based aircraft data communication system with remote flight operations control center

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Summary	Claims	KWIC	Draw Data
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☐ 13. Document ID: US 6104914 A

L25: Entry 13 of 14

File: USPT

Aug 15, 2000

US-PAT-NO: 6104914

DOCUMENT-IDENTIFIER: US 6104914 A

TITLE: Wireless frequency-agile spread spectrum ground link-based aircraft data communication system having adaptive power control

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Summary	Claims	KWIC	Draw Data
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☐ 14. Document ID: US 6047165 A

L25: Entry 14 of 14

File: USPT

Apr 4, 2000

US-PAT-NO: 6047165

DOCUMENT-IDENTIFIER: US 6047165 A

TITLE: Wireless, frequency-agile spread spectrum ground link-based aircraft data communication system

Full	Title	Citation	Front	Review	Classification	Date	Reference	Keywords	Abstract	Claims	INWOC	Drawings
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☐ 1. Document ID: US 6745010 B2

L25: Entry 1 of 14

File: USPT

Jun 1, 2004

US-PAT-NO: 6745010

DOCUMENT-IDENTIFIER: US 6745010 B2

TITLE: Wireless, frequency-agile spread spectrum ground link-based aircraft data communication system with wireless unit in communication therewith

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGURE	Draw. De
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☐ 2. Document ID: US 6522867 B1

L25: Entry 2 of 14

File: USPT

Feb 18, 2003

US-PAT-NO: 6522867

DOCUMENT-IDENTIFIER: US 6522867 B1

TITLE: Wireless, frequency-agile spread spectrum ground link-based aircraft data communication system with wireless unit in communication therewith

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGURE	Draw. De
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☐ 3. Document ID: US 6353734 B1

L25: Entry 3 of 14

File: USPT

Mar 5, 2002

US-PAT-NO: 6353734

DOCUMENT-IDENTIFIER: US 6353734 B1

**** See image for Certificate of Correction ****

TITLE: Wireless spread spectrum ground link-based aircraft data communication system for engine event reporting

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGURE	Draw. De
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☐ 4. Document ID: US 6308045 B1

L25: Entry 4 of 14

File: USPT

Oct 23, 2001

US-PAT-NO: 6308045

DOCUMENT-IDENTIFIER: US 6308045 B1

TITLE: Wireless ground link-based aircraft data communication system with roaming feature

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGS	Draw
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☐ 5. Document ID: US 6173159 B1

L25: Entry 5 of 14

File: USPT

Jan 9, 2001

US-PAT-NO: 6173159

DOCUMENT-IDENTIFIER: US 6173159 B1

TITLE: Wireless spread spectrum ground link-based aircraft data communication system for updating flight management files

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGS	Draw
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☐ 6. Document ID: US 6167239 A

L25: Entry 6 of 14

File: USPT

Dec 26, 2000

US-PAT-NO: 6167239

DOCUMENT-IDENTIFIER: US 6167239 A

TITLE: Wireless spread spectrum ground link-based aircraft data communication system with airborne airline packet communications

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGS	Draw
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☐ 7. Document ID: US 6167238 A

L25: Entry 7 of 14

File: USPT

Dec 26, 2000

US-PAT-NO: 6167238

DOCUMENT-IDENTIFIER: US 6167238 A

**** See image for Certificate of Correction ****

TITLE: Wireless-based aircraft data communication system with automatic frequency control

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Claims	FIGS	Draw
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☐ 8. Document ID: US 6163681 A

L25: Entry 8 of 14

File: USPT

Dec 19, 2000

US-PAT-NO: 6163681

DOCUMENT-IDENTIFIER: US 6163681 A

TITLE: Wireless spread spectrum ground link-based aircraft data communication system with variable data rate

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Summary	Claims	FIGS	Draw. De
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☐ 9. Document ID: US 6160998 A

L25: Entry 9 of 14

File: USPT

Dec 12, 2000

US-PAT-NO: 6160998

DOCUMENT-IDENTIFIER: US 6160998 A

TITLE: Wireless spread spectrum ground link-based aircraft data communication system with approach data messaging download

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Summary	Claims	FIGS	Draw. De
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☐ 10. Document ID: US 6154637 A

L25: Entry 10 of 14

File: USPT

Nov 28, 2000

US-PAT-NO: 6154637

DOCUMENT-IDENTIFIER: US 6154637 A

TITLE: Wireless ground link-based aircraft data communication system with roaming feature

Full	Title	Citation	Front	Review	Classification	Date	Reference	Abstract	Summary	Claims	FIGS	Draw. De
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10/750 868

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Apr 17, 2004

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DERWENT-WEEK: 200453

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TITLE: Auxiliary unit for monitoring and storing IC engine controller data - incorporates EEPROM and RAM memories and logic programmes to establish value and duration of key variables for optimal servicing strategy

INVENTOR: SCHLEUPEN, R; ZIMMERMANN, J--

PATENT-ASSIGNEE: BOSCH GMBH ROBERT (BOSC)

PRIORITY-DATA: 1995DE-1016481 (May 5, 1995)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> KR 413552 B	April 17, 2004		000	G07C003/00
<input type="checkbox"/> DE 19516481 A1	November 7, 1996		005	G07C005/08
<input type="checkbox"/> JP 08315202 A	November 29, 1996		005	G07C005/08
<input type="checkbox"/> US 5968101 A	October 19, 1999		000	G06F007/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
KR 413552B	May 3, 1996	1996KR-0014347	
KR 413552B		KR 96042820	Previous Publ.
DE 19516481A1	May 5, 1995	1995DE-1016481	
JP 08315202A	March 13, 1996	1996JP-0056346	
US 5968101A	April 23, 1996	1996US-0636360	

INT-CL (IPC): [B60 R 16/02](#); [G01 K 1/02](#); [G06 F 7/00](#); [G06 F 19/00](#); [G07 C 3/00](#); [G07 C 5/08](#)

ABSTRACTED-PUB-NO: DE 19516481A

BASIC-ABSTRACT:

An auxiliary unit for monitoring and storing data relevant to the performance of the electronic controller of an IC engined vehicle is designed to deliver such data for off-line processing by an external computer in the manner of an aircraft black-box recorder.

By this means the probability of potential system failure can be periodically assessed and servicing intervals set accordingly.

The unit can be conveniently incorporated in the engine controller and has logic programmes for recording in EEPROM the various relevant parameters. Examples of typical programmes are shown covering running time and the duration/value of maximum and minimum temperatures.

USE/ADVANTAGE - Enables log of service history of engine controller in terms of each important variable so that realistic data is available for assessing probability of malfunction and therefore optimal servicing strategy.

ABSTRACTED-PUB-NO: US 5968101A
EQUIVALENT-ABSTRACTS:

An auxiliary unit for monitoring and storing data relevant to the performance of the electronic controller of an IC engined vehicle is designed to deliver such data for off-line processing by an external computer in the manner of an aircraft black-box recorder.

By this means the probability of potential system failure can be periodically assessed and servicing intervals set accordingly.

The unit can be conveniently incorporated in the engine controller and has logic programmes for recording in EEPROM the various relevant parameters. Examples of typical programmes are shown covering running time and the duration/value of maximum and minimum temperatures.

USE/ADVANTAGE - Enables log of service history of engine controller in terms of each important variable so that realistic data is available for assessing probability of malfunction and therefore optimal servicing strategy.

CHOSEN-DRAWING: Dwg.0/2

DERWENT-CLASS: Q17 S02 S03 T05 X22
EPI-CODES: S02-J01A; S03-B01E; T05-G01; X22-X;

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File: DWPI

Sep 19, 1995

DERWENT-ACC-NO: 1995-356697

DERWENT-WEEK: 199546

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TITLE: Audio compression recording method e.g. for aircraft black box - detecting voice data by comparison of prediction factor and frame average signals divided into frames and performing voice recording only when voice data is detected by audio detector

PATENT-ASSIGNEE: KOKUSAI DENKI KK (KOKZ)

PRIORITY-DATA: 1994JP-0033386 (March 3, 1994)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> JP 07244929 A	September 19, 1995		005	G11B020/10

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP 07244929A	March 3, 1994	1994JP-0033386	

INT-CL (IPC): [G11 B 20/10](#); [H03 G 7/00](#)

ABSTRACTED-PUB-NO: JP 07244929A

BASIC-ABSTRACT:

The method involves using an amplifier to amplify a voice signal which is received and converted by a microphone. The analogue signal is digitised by an A/D converter and is fed to an ADPCM signal converter for voice encoding. An audio detector (40) receives the output of the ADPCM through the voice encoder (32). An adaptive predictor (35) outputs a prediction factor signal (a1) and a frame average signal (a2).

These signals are divided into frames and mean values are obtd. which are compared with threshold voltage (Vth) to determine whether voice data is being transmitted from the cockpit. Detected voice data are fed into a memory driver controlled by the ADPCM signal converter. The voice data is stored in a memory.

ADVANTAGE - Removes noise from voice data being recorded. Allows system size reduction since memory space is optimised.

ABSTRACTED-PUB-NO: JP 07244929A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/3

DERWENT-CLASS: U24-W04-W06
EPI-CODES: U24-C02B; W04-G01F; W04-V04A; W06-B01B6;

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L12: Entry 13 of 23

File: DWPI

Mar 10, 1995

DERWENT-ACC-NO: 1995-128971

DERWENT-WEEK: 199517

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TITLE: Interleaved memory for safety recorder eg. for black box in aircraft - overlaps finite time required to write data with write cycles of other memory modules in system by interleaving data writes to various memory modules

PATENT-ASSIGNEE: ANONYMOUS (ANON)

PRIORITY-DATA: 1995RD-0371001 (February 20, 1995)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> <u>RD 371001 A</u>	March 10, 1995		001	B60K000/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
RD 371001A	February 20, 1995	1995RD-0371001	

INT-CL (IPC): B60 K 0/00; G06 F 0/00

ABSTRACTED-PUB-NO: RD 371001A

BASIC-ABSTRACT:

The memory device uses several interleaved memory modules to record data. By interleaving data writes to the various memory modules, the finite time required to write data is overlapped with the write cycles of the other memory modules in the system. Four pieces of data (DATA.0 through DATA.3) can be written simultaneously with only 48E joules of energy required to write the eight pieces of data in 2T milliseconds.

The total time to write all data is divided by the number of memory modules. Also, the energy required to operate the microprocessor is divided by the number of modules. The total energy reserve (168E joules) required in fig. 1 is reduced to 48E joules in fig. 2.

ABSTRACTED-PUB-NO: RD 371001A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1,2/2

DERWENT-CLASS: Q13 T01 W06

EPI-CODES: T01-H03C; W06-B01B6;

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L12: Entry 14 of 23

File: DWPI

Oct 26, 1994

DERWENT-ACC-NO: 1994-326123

DERWENT-WEEK: 200218

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TITLE: Traffic accident data recording, reproduction and analysis system - stores acceleration, and opt. angular velocity, data for transportation vehicle over time period before and after occurrence of accident

INVENTOR: YAMAWAKI, Y

PATENT-ASSIGNEE: AWAJI FERRYBOAT KK (AWAJN), YAMAWAKI Y (YAMAI)

PRIORITY-DATA: 1993JP-0092626 (April 20, 1993)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> EP 621564 A2	October 26, 1994	E	018	G07C005/08
<input type="checkbox"/> KR 286848 B	April 16, 2001		000	G01P001/00
<input type="checkbox"/> AU 9460507 A	October 27, 1994		000	G07C005/08
<input type="checkbox"/> CA 2121403 A	October 21, 1994		000	G01D009/28
<input type="checkbox"/> US 5446659 A	August 29, 1995		016	G06F019/00
<input type="checkbox"/> EP 621564 A3	January 17, 1996		000	G07C005/08
<input type="checkbox"/> AU 669785 B	June 20, 1996		000	G07C005/08
<input type="checkbox"/> CN 1109163 A	September 27, 1995		000	G01D021/00
<input type="checkbox"/> EP 621564 B1	June 17, 1998	E	000	G07C005/08
<input type="checkbox"/> DE 69411072 E	July 23, 1998		000	G07C005/08
<input type="checkbox"/> CA 2121403 C	November 2, 1999	E	000	G01D009/28

DESIGNATED-STATES: BE DE FR GB IT NL SE BE DE FR GB IT NL SE

CITED-DOCUMENTS: No-SR.Pub; 1.Jnl.Ref ; DE 4103599 ; DE 4111171 ; DE 4136968 ; EP 118818 ; EP 87398 ; FR 2574928 ; JP 02081795 ; US 4533962 ; US 4817118

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 621564A2	April 18, 1994	1994EP-0302730	
KR 286848B	April 20, 1994	1994KR-0008304	
KR 286848B		KR 94024433	Previous Publ.

AU 9460507A	April 18, 1994	1994AU-0060507	
CA 2121403A	April 15, 1994	1994CA-2121403	
US 5446659A	April 14, 1994	1994US-0227733	
EP 621564A3	April 18, 1994	1994EP-0302730	
AU 669785B	April 18, 1994	1994AU-0060507	
AU 669785B		AU 9460507	Previous Publ.
CN 1109163A	April 20, 1994	1994CN-0104359	
EP 621564B1	April 18, 1994	1994EP-0302730	
DE 69411072E	April 18, 1994	1994DE-0611072	
DE 69411072E	April 18, 1994	1994EP-0302730	
DE 69411072E		EP 621564	Based on
CA 2121403C	April 15, 1994	1994CA-2121403	

INT-CL (IPC): B60Q 11/00; B60R 27/00; G01D 9/28; G01D 21/00; G01P 1/00; G01P 1/12; G06F 19/00; G07C 5/08

ABSTRACTED-PUB-NO: EP 621564A
BASIC-ABSTRACT:

A traffic accident data recorder (1) comprises an acceleration sensor, e.g. of strain gauge or capacitance etc. type, an angular velocity sensor if required, and memory, e.g. semiconductor or magnetic, with control, e.g. microcomputer. When the sensor output threshold is exceeded, the computer recognises a traffic accident occurrence, storing sensor output data in the memory after, and if required before as well, that time for at least the previous direction of motion, x-axis of the vehicle.

Plural recorders may be installed if required in the vehicle. The data may then be subsequently read out, analysed, displayed and if required printed, reproducing conditions prevailing at the time of the accident, enabling speedy determin. of likely causes thereof.

USE/ADVANTAGE - Small, economic, accurate traffic accidents t data recorder for road, sea or air vehicles, not requiring wiring to sensor locations, as in aircraft flight recorder 'black boxes'.

ABSTRACTED-PUB-NO: EP 621564B
EQUIVALENT-ABSTRACTS:

A traffic accident data recorder (1) comprises an acceleration sensor, e.g. of strain gauge or capacitance etc. type, an angular velocity sensor if required, and memory, e.g. semiconductor or magnetic, with control, e.g. microcomputer. When the sensor output threshold is exceeded, the computer recognises a traffic accident occurrence, storing sensor output data in the memory after, and if required before as well, that time for at least the previous direction of motion, x-axis of the vehicle.

Plural recorders may be installed if required in the vehicle. The data may then be subsequently read out, analysed, displayed and if required printed, reproducing conditions prevailing at the time of the accident, enabling speedy determin. of likely causes thereof.

USE/ADVANTAGE - Small, economic, accurate traffic accidents t data recorder for road, sea or air vehicles, not requiring wiring to sensor locations, as in aircraft

flight recorder 'black boxes'.

US-5446659A

The system includes an acceleration measurement device for measuring acceleration of the vehicle in three axial directions in a three-dimensional space to output acceleration data. An angular velocity measurement device is used for measuring angular velocity of the vehicle about three directional axes in a three-dimensional space, to output angular velocity data,

storage device for storing the acceleration data and the angular velocity data.

A control device is provided for determining the traffic accident occurrence time by recognizing a time when a set acceleration value has been exceeded by a respective acceleration datum obtained by the acceleration measurement device or a set angular velocity value has been exceeded by a respective angular velocity datum obtained by the angular velocity measurement device to start the acceleration data and the angular velocity data being stored in the storage device.

USE/ADVANTAGE - For traffic accident recorder mounted on land transport, marine vehicles or aircraft. Provision for visual reproduction of traffic accident for easy determin cause of accident. Compact size in comparison to those used on board of aircraft.

CHOSEN-DRAWING: Dwg.2,13/1 Dwg.11/14

DERWENT-CLASS: Q16 Q17 S02 T05 T07 W06 X22

EPI-CODES: S02-G03; T05-G01; T07-X; W06-B01B6; W06-C01B; X22-E05;

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File: DWPI

Sep 14, 1994

DERWENT-ACC-NO: 1994-273635

DERWENT-WEEK: 199643

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TITLE: Portable flight data recorder - receives and stores copy of data from main crash recorder of aircraft black box, with data recorded contemporaneously with recording in main recorder, or transferred as high-speed burst in response to operation of pilots ejector seat

INVENTOR: SANDERS, N R; SWITHINBANK, D M

PATENT-ASSIGNEE: GEC MARCONI AVIONICS HOLDINGS LTD (MAON)

PRIORITY-DATA: 1993GB-0004896 (March 10, 1993)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> GB 2276006 A	September 14, 1994		019	G08C017/00
<input type="checkbox"/> GB 2276006 B	October 2, 1996		001	G08C017/00

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
GB 2276006A	December 22, 1993	1993GB-0026201	
GB 2276006B	December 22, 1993	1993GB-0026201	

INT-CL (IPC): G08C 17/00

ABSTRACTED-PUB-NO: GB 2276006A

BASIC-ABSTRACT:

The pocket data recorder (10), carried in a pocket of a pilot, receives and stores in its memory (13) a copy of at least some of the data stored in the main crash recorder memory (3) of an aircraft black box flight data recorder (1). The recorder includes a radio transmitter (4) and an antenna (5), but the transmission may be via an inductive loop around the aircraft cockpit. The recorder may store only some of the data stored in the main crash recorder. Data may be recorded contemporaneously with the recording in the main recorder, or may be transferred as a high-speed burst in response to operation of the pilots ejector seat.

The memory (13) is non-volatile. Where data is transferred in a burst, data may be initially stored in a high speed volatile memory provided in the recorder and then copied into the non-volatile memory. Data may be continually over-written by fresh data. At least some data, e.g. speech, may be stored permanently. If the aircraft crashes in inaccessible terrain, or in deep water, the data carried by the pilot's

recorder may provide sufficient information about the cause of the crash to obviate the need to recover the main crash recorder.

USE - E.g. for worker in hazardous environment, or driver of vehicle to carry record of vehicle performance and/or driver's physiological state.

ABSTRACTED-PUB-NO: GB 2276006B

EQUIVALENT-ABSTRACTS:

A data recording system comprising a data collection and transmitter module for receiving data to be stored, the module comprising means to transmit at least some of the data received thereby; and a pocketable data recorder for automatically receiving data broadcast by the module, and comprising data storage means for storing data received from the module.

CHOSEN-DRAWING: Dwg.1/5 Dwg.1

DERWENT-CLASS: W05 W06

EPI-CODES: W05-D04A5; W05-D07D; W06-B01B6;

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L12: Entry 16 of 23

File: DWPI

Mar 15, 1994

DERWENT-ACC-NO: 1994-091832

DERWENT-WEEK: 199411

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TITLE: Solid state data recorder - has memory word locations organised into addressable columns and rows with each memory location capable of storing one word in response to two programming steps

INVENTOR: DOBOS, J A; MALECEK, K A ; POWELL, T F

PATENT-ASSIGNEE: ELECTRONIC PROFESSIONAL SERVICES INC (ELPRN)

PRIORITY-DATA: 1991US-0661049 (February 22, 1991)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> US 5295255 A	March 15, 1994		024	G06F012/06

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
US 5295255A	February 22, 1991	1991US-0661049	

INT-CL (IPC): G06F 12/06

ABSTRACTED-PUB-NO: US 5295255A

BASIC-ABSTRACT:

The appts. for programming a mass storage device of the type has a number of memory word locations. The memory word locations are organised into a number of addressable columns and addressable rows. Each memory word location is capable of storing one byte word in response to at least two programming steps. Each programming step for a selected memory word location requires set time period before a subsequent programming step can be processed by the selected memory word location.

The first programming step is applied sequentially to other memory word locations while the first programming step is being processed by the first memory word location. A second programming step is applied to the first memory word location while the first programming step is being process by the other memory word locations. The second programming step is sequentially applied to the other memory word locations while the second programming step is being processed by the first memory word location.

USE - In aircraft as in-flight recorder or 'black box' recorder.

ABSTRACTED-PUB-NO: US 5295255A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/14

DERWENT-CLASS: T01

EPI-CODES: T01-H01A; T01-H01B;

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L12: Entry 17 of 23

File: DWPI

Jul 7, 1993

DERWENT-ACC-NO: 1993-215718

DERWENT-WEEK: 199647

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TITLE: Aircraft 'black box' for protecting data recording instruments - has inner and outer units with insulating and heat reflecting layers between and reservoir which releases water on exposure to heat

INVENTOR: CHRISTIEN, G; DAOULAS, Y

PATENT-ASSIGNEE: SFIM IND (SFIMN), SFIM SOC FAB INSTR MEASURE (SFIMN)

PRIORITY-DATA: 1991FR-0016399 (December 31, 1991)

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PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/>	<u>EP 550345 A1</u>	July 7, 1993	F	006	A62C003/00
<input type="checkbox"/>	<u>ES 2090561 T3</u>	October 16, 1996		000	A62C003/00
<input type="checkbox"/>	<u>FR 2685644 A1</u>	July 2, 1993		000	A62C003/08
<input type="checkbox"/>	<u>EP 550345 B1</u>	July 3, 1996	F	006	A62C003/00
<input type="checkbox"/>	<u>DE 69211976 E</u>	August 8, 1996		000	A62C003/00

DESIGNATED-STATES: DE ES GB IT SE DE ES GB IT SE

CITED-DOCUMENTS: DE 2009398; GB 1498177 ; US 4944401

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
EP 550345A1	December 30, 1992	1992EP-0403585	
ES 2090561T3	December 30, 1992	1992EP-0403585	
ES 2090561T3		EP 550345	Based on
FR 2685644A1	December 31, 1991	1991FR-0016399	
EP 550345B1	December 30, 1992	1992EP-0403585	
DE 69211976E	December 30, 1992	1992DE-0611976	
DE 69211976E	December 30, 1992	1992EP-0403585	
DE 69211976E		EP 550345	Based on

INT-CL (IPC): A62C 3/00; A62C 3/08; B64G 1/58; F16L 59/02; G01D 3/08; G12B 17/06; G12B 17/08

ABSTRACTED-PUB-NO: EP 550345A

BASIC-ABSTRACT:

The box comprises inner (3,4) and outer (1,2) units, with the outer one resistant to mechanical shocks, while the space between them contains a filling (8,8') of a material which forms a reservoir with a given mechanical strength and containing water which is released under the effect of heat. The reservoir has a series of cavities which prevent it from expanding under the effect of cold, and is surrounded by a layer (7) of a thermally-stable insulating material, with a separating layer (5,6) of a material which is able to reflect a proportion of a heat flow passing through the insulating material.

ADVANTAGE - Greater resistance to impacts, heat and cold.

ABSTRACTED-PUB-NO: EP 550345B

EQUIVALENT-ABSTRACTS:

A device for providing mechanical and thermal protection, in particular for protecting recorders for recording data concerning flight circumstances of an aircraft, which device comprises an inner box (3,4) that contains the elements to be protected, an outer box (1,2) placed around the inner box and which withstands mechanical shocks, and in the space between the two boxes, a filling (8,8') of a reservoir material constituting a solid that has mechanical strength, that contains water suitable for being released under the action of heat, and that includes sufficient multiple cavities to avoid the material expanding under the effect of cold, said filling being surrounded by a filling (7,7') of a stable thermal insulator, said two fillings being separated by a layer (5,6) suitable for reflecting a portion of any heat flux passing through the stable thermal insulator.

CHOSEN-DRAWING: Dwg.1/1 Dwg.1/1

DERWENT-CLASS: P35 Q25 Q67

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L12: Entry 18 of 23

File: DWPI

Nov 12, 1992

DERWENT-ACC-NO: 1992-399139

DERWENT-WEEK: 199248

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TITLE: Electromagnetic interference shielding for enclosures e.g. safe room - uses single crystal layer of conductive or magnetic metal bonded to outer layers of resilient material, centre material is high conductivity copper or nickel iron alloy

INVENTOR: FORDE, P T; LICHTENBERGER, H

PATENT-ASSIGNEE: HANDY & HARMAN (HANDN)

PRIORITY-DATA: 1991US-0694732 (May 2, 1991)

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PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/>	WO 9220091 A1	November 12, 1992	E	018	H01K009/00
<input type="checkbox"/>	AU 9223020 A	December 21, 1992		000	H01K009/00

DESIGNATED-STATES: AU BR CA FI JP KR NO AT BE CH DE DK ES FR GB GR IT LU MC NL SE

CITED-DOCUMENTS: 2.Jnl.Ref; US 4647714 ; US 4890083

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9220091A1	May 1, 1992	1992WO-US03625	
AU 9223020A	May 1, 1992	1992AU-0023020	
AU 9223020A	May 1, 1992	1992WO-US03625	
AU 9223020A		WO 9220091	Based on

INT-CL (IPC): H01K 9/00

ABSTRACTED-PUB-NO: WO 9220091A

BASIC-ABSTRACT:

The material comprises an inner layer of a first metal capable of absorbing electromagnetic radiation of a desired frequency range, and a first outer layer of a resilient second metal bonded to a first side of the inner layer to impart fatigue resistance to the laminated material. The laminated material further comprises a second outer layer of a resilient third metal to impart further fatigue resistance to the laminate.

The second outer layer is bonded to a second side of the inner layer. The third metal is the same as the second metal. The first metal provides high frequency electromagnetic radiation absorption. The first metal is high conductivity copper, and provides low frequency electromagnetic radiation absorption.

USE/ADVANTAGE - For black box aircraft flight data recorder or 'safe room', in e.g. government embassy to prevent surveillance. Provides effective shielding from EMI, and is sufficiently resilient to be employed in enclosures requiring frequent access for maintainance.

ABSTRACTED-PUB-NO: WO 9220091A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/1

DERWENT-CLASS: V04 W06
EPI-CODES: V04-S09; V04-U01; W06-B01B6;

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L12: Entry 19 of 23

File: DWPI

Oct 23, 1991

DERWENT-ACC-NO: 1992-248708

DERWENT-WEEK: 199230

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TITLE: Data reproduction by magnetic tape - with through recording and reading both sides to minimise loss by damage, e.g. in flight recorders

INVENTOR: GOLDMAN, D D; POPOV YU, V

PATENT-ASSIGNEE: GOLDMAN D D (GOLDI)

PRIORITY-DATA: 1989SU-4658383 (March 3, 1989)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> SU 1686478 A1	October 23, 1991		002	G11B020/10

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
SU 1686478A1	March 3, 1989	1989SU-4658383	

INT-CL (IPC): G11B 20/10

ABSTRACTED-PUB-NO: SU 1686478A

BASIC-ABSTRACT:

The tape used is a metal type, magnetised in the recording mode right through; the result is an identical signal both sides: which can be read in reproduction on both sides by two heads, with correspondingly reduced chances of damage.

Heads (2,3) contact both sides of tape (1) and connect with differential amplifier (4), shaper (5), differentiator (6), monovibrator (7), output line (8). The system allows an accurate and reliable inquiry into aircraft catastrophies, as the 'black box' flight recorder with the system has a higher probability of undamaged data. Bul.39/23.10.91.

ABSTRACTED-PUB-NO: SU 1686478A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/1

DERWENT-CLASS: T03 W06

EPI-CODES: T03-A06; W06-B01B6;

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L12: Entry 20 of 23

File: DWPI

Jan 31, 1991

DERWENT-ACC-NO: 1991-037766

DERWENT-WEEK: 199106

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TITLE: Air purifying filter for encapsulated electronic equipment - has particle filtering layer and adsorbent filter layer via which all air entering equipment passes

INVENTOR: JEFFERS, A R

PATENT-ASSIGNEE: DE RUITER E (DRUII)

PRIORITY-DATA: 1989DE-3924341 (July 22, 1989)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> DE 3924341 A	January 31, 1991		000	

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DE 3924341A	July 22, 1989	1989DE-3924341	

INT-CL (IPC): B01D 46/30; B01D 50/00; B01D 53/02; B01J 20/28; H02B 1/56; H05K 7/20

ABSTRACTED-PUB-NO: DE 3924341A

BASIC-ABSTRACT:

A filter unit for purifying the air necessary for equalising the press. in encapsulated electronic devices comprises a particle filter and an absorption filter fixed into a suitable opening in the filter housing such that the equalisation of press. can only take place via this route.

Pref. the filter housing is made of thin-walled corrosion resistant metal. The filter is pref. constructed such that any condensate formed can drain away through the filter. Pref. the filter housing is conductive and is cylindrical or conical with a dia. of 0.5-2 cm and a length of 1-5 cm. The adsorber layer is e.g. of one or more of 0.1 - 2 mm particulate active carbon, 0.1-1 mm spherical particles of pitch or ion exchange resin, a molecular sieve and metal cpds. with catalytic properties. The adsorber layer is pref. held under light compression in the filter housing by means of elastic foam plugs at each end of the tube to avoid settling and the formation of channels. The foam plugs may be combined with the particle filter layers.

USE/ADVATNAGE - The filter units are incorporated into externally cooled encapsulated electronic devices, esp. aircraft 'Black Box' type flight recorders,

which are subjected to changes in temp. and press. whilst in service and therefore breathe. By filtering out any particulate matter and vapours from the air entering the appts. the equipment is given an improved working environment which improves reliability of operation and prolongs the useful life of the device.

ABSTRACTED-PUB-NO: DE 3924341A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/1

DERWENT-CLASS: A88 J01 V04 W06
CPI-CODES: A12-E05; A12-H04; J01-E03C; J01-G03;
EPI-CODES: V04-T03; W06-B01B;

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L12: Entry 21 of 23

File: DWPI

Jul 2, 1986

DERWENT-ACC-NO: 1986-171474

DERWENT-WEEK: 198627

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TITLE: Enclosure thermally protecting heat sensitive items - useful for aircraft flight recorder, includes solid insulator exhibiting solid to solid phase transition encapsulating items

INVENTOR: GROENEWEGE, J B

PATENT-ASSIGNEE: SUNDSTRAND DATA CONTROL (SUNH)

PRIORITY-DATA: 1984US-0687910 (December 31, 1984), 1983US-0529831 (September 7, 1983)

[Search Selected](#)[Search ALL](#)[Clear](#)

PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/>	GB 2169146 A	July 2, 1986		003	
<input type="checkbox"/>	AU 8551474 A	July 10, 1986		000	
<input type="checkbox"/>	DE 3546403 A	July 3, 1986		000	
<input type="checkbox"/>	DE 3546403 C	March 31, 1988		000	
<input type="checkbox"/>	DK 8506080 A	July 1, 1986		000	
<input type="checkbox"/>	FR 2582183 A	November 21, 1986		000	
<input type="checkbox"/>	GB 2169146 B	April 20, 1988		000	
<input type="checkbox"/>	SE 8505946 A	July 1, 1986		000	
<input type="checkbox"/>	US 4694119 A	September 15, 1987		000	

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR. ..
GB 2169146A	December 11, 1985	1985GB-0030467	
DE 3546403A	December 31, 1985	1985DE-3546403	
FR 2582183A	December 27, 1985	1985FR-0019295	
US 4694119A	December 31, 1984	1984US-0687910	

INT-CL (IPC): A62C 3/16; B65D 81/38; F16L 59/05; G12B 17/06; H01L 23/36; H05K 5/02; H05K 7/20

ABSTRACTED-PUB-NO: DE 3546403C

BASIC-ABSTRACT:

An enclosure for thermally protecting one or more heat sensitive items from a high temp. environment comprises (a) an outer housing defining an inner cavity; (b) a thermal liner or solid material which remains solid when the enclosure is exposed to a high environment; (c) one or more heat sensitive items within the liner, spaced from its walls; and (d) a thermal insulator encapsulating the heat sensitive item(s), exhibiting a solid-to-solid phase transition at a predetermined temp., so the insulator is maintained in a first solid phase when the enclosure is exposed to high temp. The thermal insulator is pref. pentaerythritol (C₅H₁₂O₅)

).

USE/ADVANTAGE - The device is esp. useful for shielding an aircraft flight recorder memory during crash and fire (claimed). It can maintain units below 200 deg.C. when exposed to fire producing a temp. of 1100 deg.C. for 0.5 h and left undisturbed for 4h. The thermal insulator acts as a heat sink during transition to maintain the units below their max. permitted temp.

ABSTRACTED-PUB-NO: GB 2169146A
EQUIVALENT-ABSTRACTS:

Black boxes and other flight recorders must be able to withstand extreme heat of over 1100 deg.C in case of aircraft crashes followed by a fire. The heat sensitive contents are therefore embedded in heat absorbent material inside a strong heat protection casing. The preferred material is pentaerythrite which has a solid-solid phase transition.

ADVANTAGE - This effects a better degree of heat absorption in case of high ambient temp. (8pp)-

US 4694119A

Enclosure to protect heat sensitive item(s) from high temp. environments comprises (A) a metal outer housing; (B) a first thermal insulator which lines the inner surface of (A) and remains solid on exposure to high temp., and (C) an amide wax which encapsulates the items, is solid at normal temp. but becomes liq. when exposed to high temp.

(C) may comprises N,N'-ethylene bisstearamide and N,N'-distearoyl ethylenediamine.

USE/ADVANTAGE - For enclosing a solid state memory device for storing data which is to be recovered following exposure of the enclosure to the high temp. environment. The system is esp for aircraft flight data recorders and is compact inexpensive, lightweight and reliable. (9pp)b

DERWENT-CLASS: E17-G04 P35 Q34 Q67 V04 W06
CPI-CODES: E10-E04H; G04-B01;
EPI-CODES: V04-S09; V04-T03A; W06-B01B;

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L12: Entry 22 of 23

File: DWPI

Aug 2, 1978

DERWENT-ACC-NO: 1978-G0062A

DERWENT-WEEK: 197831

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TITLE: Protection of vanadium-alloy, black-box tape - providing sacrificial electro-positive electrode of zinc or magnesium based alloy connected to tape

INVENTOR: PEARCE, R R

PATENT-ASSIGNEE: EMI LTD (ELEM)

PRIORITY-DATA: 1974GB-0031144 (July 13, 1974)

[Search Selected](#)[Search ALL](#)[Clear](#)

PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> GB 1520251 A	August 2, 1978		000	

INT-CL (IPC): G11B 23/00

ABSTRACTED-PUB-NO: GB 1520251A

BASIC-ABSTRACT:

An aircraft black-box is protected against the corrosive effects of sea-water. The recording tape (2) is alloy of vanadium, iron and cobalt and makes electrical contact with a hub (13 or 15) of a zinc or magnesium-based alloy which is electrolytically electropositive w.r.t. the alloy of the tape.

The hub acts as a sacrificial electrode dissolving and protecting the tape against corrosion when submerged in sea-water. The tape is anchored in an angled slot (16) in the hub and the electrical connection may be augmented by spring-biasing the hub outwardly. Instead of the hub, the reel itself may act as a sacrificial electrode.

ABSTRACTED-PUB-NO: GB 1520251A

EQUIVALENT-ABSTRACTS:

DERWENT-CLASS: T03

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L12: Entry 23 of 23

File: DWPI

Apr 4, 1974

DERWENT-ACC-NO: 1974-27479V

DERWENT-WEEK: 197415

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TITLE: Data-recording appts contg stabilisation devices - for use in aircraft

PATENT-ASSIGNEE: SPERRY RAND LTD (SPER)

PRIORITY-DATA: 1973DE-2348217 (September 25, 1973)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> DE 2348217 A	April 4, 1974		000	

INT-CL (IPC): G11B 15/44

ABSTRACTED-PUB-NO: DE 2348217A

BASIC-ABSTRACT:

Data-recording apparatus e.g. of the 'black-box' variety used in aircraft contains stabilisation devices to minimise or avoid extraneous sound sources, which has marred playback in prior art appts.

ABSTRACTED-PUB-NO: DE 2348217A

EQUIVALENT-ABSTRACTS:

DERWENT-CLASS: A95 T03

CPI-CODES: A12-L; A12-T;

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10/750868



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L12: Entry 9 of 23

File: DWPI

Aug 12, 1999

DERWENT-ACC-NO: 1999-479533

DERWENT-WEEK: 200301

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TITLE: Sequential image storage system for recording events leading up to and just after an impact for the purposes of determining liability in vehicle impact

INVENTOR: RAYNER, G A

PATENT-ASSIGNEE: I-WITNESS INC (IWITN)

PRIORITY-DATA: 1998US-0020700 (February 9, 1998)

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PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/>	WO 9940545 A1	August 12, 1999	E	022	G07C005/08
<input type="checkbox"/>	AU 9924781 A	August 23, 1999		000	G07C005/08

DESIGNATED-STATES: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG ZW

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
WO 9940545A1	January 27, 1999	1999WO-US01810	
AU 9924781A	January 27, 1999	1999AU-0024781	
AU 9924781A		WO 9940545	Based on

INT-CL (IPC): [G07 C 5/08](#)

RELATED-ACC-NO: 2001-456770;2002-121618 ;2002-616504 ;2003-014913

ABSTRACTED-PUB-NO: WO 9940545A

BASIC-ABSTRACT:

NOVELTY - The system is stowed in a vehicle and constantly captures a series of still picture images from a camera into an infinite loop digital memory. When a G-Force sensor emits an input signal, i.e. after an impact, this triggers the system to record in a second digital store a predetermined number of picture frames from a period prior to and after the trigger event.

USE - In vehicle to record the events leading up to and just after an impact for the purposes of determining liability.

ADVANTAGE - Helps in reconstructing events leading up to accident in similar way to black box recorder in aircraft; but is not bulky and does not use umbilical cable or radio links.

DESCRIPTION OF DRAWING(S) - The drawing shows a block diagrams of the functional elements of the recording system.

ABSTRACTED-PUB-NO: WO 9940545A
EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/5

DERWENT-CLASS: T01 T04 T05 X22

EPI-CODES: T01-C04; T01-C08B; T01-H05B1; T01-J06B1; T01-J07A; T01-J10A; T01-J10A2;
T01-J10C2; T01-S02; T04-H03; T05-G01; X22-E12;

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L12: Entry 10 of 23

File: DWPI

Dec 18, 2003

DERWENT-ACC-NO: 1998-063290

DERWENT-WEEK: 200407

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TITLE: Sensor device for measuring attitude, acceleration or gravitational field and its gradient components - has cavity provided with measuring sensors or electrodes for three different coordinate axes with all sensors responding to common inert mass filled in cavity

INVENTOR: JALKANEN, E

PATENT-ASSIGNEE: GEORESEARCH ENG JALKANEN & CO E (GEORN), GEORESEARCH ENG JALKANEN & CO (GEORN)

PRIORITY-DATA: 1996FI-0002576 (June 20, 1996)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> DE 69726146 E	December 18, 2003		000	G01P015/08
<input type="checkbox"/> WO 9748986 A1	December 24, 1997	E	014	G01P015/08
<input type="checkbox"/> FI 100558 B1	December 31, 1997		000	
<input type="checkbox"/> AU 9731785 A	January 7, 1998		000	G01P015/08
<input type="checkbox"/> EP 906579 A1	April 7, 1999	E	000	G01P015/08
<input type="checkbox"/> AU 714341 B	December 23, 1999		000	G01P015/08
<input type="checkbox"/> JP 2000512387 W	September 19, 2000		015	G01P015/02
<input type="checkbox"/> US 6453745 B1	September 24, 2002		000	G01P015/08
<input type="checkbox"/> RU 2202803 C2	April 20, 2003		000	G01P015/08
<input type="checkbox"/> EP 906579 B1	November 12, 2003	E	000	G01P015/08

DESIGNATED-STATES: AU CA CN IL JP NO RU US AT BE CH DE DK ES FI FR GB GR IE IT LU MC NL PT SE AT CH DE DK FR GB IE IT LI NL SE AT CH DE DK FR GB IE IT LI NL SE

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DE 69726146E	June 19, 1997	1997DE-0626146	
DE 69726146E	June 19, 1997	1997EP-0927215	
DE 69726146E	June 19, 1997	1997WO-FI00396	
DE 69726146E		EP 906579	Based on

DE 69726146E		WO 9748986	Based on
WO 9748986A1	June 19, 1997	1997WO-FI00396	
FI 100558B1	June 20, 1996	1996FI-0002576	
FI 100558B1		FI 9602576	Previous Publ.
AU 9731785A	June 19, 1997	1997AU-0031785	
AU 9731785A		WO 9748986	Based on
EP 906579A1	June 19, 1997	1997EP-0927215	
EP 906579A1	June 19, 1997	1997WO-FI00396	
EP 906579A1		WO 9748986	Based on
AU 714341B	June 19, 1997	1997AU-0031785	
AU 714341B		AU 9731785	Previous Publ.
AU 714341B		WO 9748986	Based on
JP2000512387W	June 19, 1997	1997WO-FI00396	
JP2000512387W	June 19, 1997	1998JP-0502398	
JP2000512387W		WO 9748986	Based on
US 6453745B1	June 19, 1997	1997WO-FI00396	
US 6453745B1	December 16, 1998	1998US-0202550	
US 6453745B1		WO 9748986	Based on
RU 2202803C2	June 19, 1997	1997WO-FI00396	
RU 2202803C2	June 19, 1997	1999RU-0101087	
RU 2202803C2		WO 9748986	Based on
EP 906579B1	June 19, 1997	1997EP-0927215	
EP 906579B1	June 19, 1997	1997WO-FI00396	
EP 906579B1		WO 9748986	Based on

INT-CL (IPC): G01 P 15/00; G01 P 15/02; G01 P 15/08

ABSTRACTED-PUB-NO: US 6453745B
BASIC-ABSTRACT:

The device includes a spherical cavity (3) which contains a sensor substance in the form of a fluid or some other inertial material having fluidic properties. The cavity has measuring sensors or measuring electrodes (-x,+x, -y,+y, -z,+z) for three different coordinate axes x,y,z, all of the sensors responding to the common inertial mass which fills the cavity.

The sensor material filling the cavity 3 comprises a fluid, liquid or gas or some other substance with fluidic properties, such as gels or colloids. If the sensor fluid used is electrically or optically neutral relative to pressure, the pressure is measured directly by a sensor (passive or active) integrated in the system. The sensor fluid is common to all sensors performing 3-dimensional measuring and the sensors respond to changes in pressure of sensor fluid.

USE - Provide sensor device capable of determining attitude of device or rate and direction of its acceleration 3-dimensionally, in industrial manufacturing and robotics as altitude identifier or triaxial sensor for linear motion or acceleration, in navigational systems in land vehicles (inertial navigation), water- and aircraft, in black boxes (where kinetic history of vehicle is to be recorded), geophysics, geotechnique and other areas of construction engineering.

ADVANTAGE - Sensor is capable of measuring altitude of its base which is at rest or in constant motion.

ABSTRACTED-PUB-NO: WO 9748986A

EQUIVALENT-ABSTRACTS:

The device includes a spherical cavity (3) which contains a sensor substance in the form of a fluid or some other inertial material having fluidic properties. The cavity has measuring sensors or measuring electrodes (-x,+x, -y,+y, -z,+z) for three different coordinate axes x,y,z, all of the sensors responding to the common inertial mass which fills the cavity.

The sensor material filling the cavity 3 comprises a fluid, liquid or gas or some other substance with fluidic properties, such as gels or colloids. If the sensor fluid used is electrically or optically neutral relative to pressure, the pressure is measured directly by a sensor (passive or active) integrated in the system. The sensor fluid is common to all sensors performing 3-dimensional measuring and the sensors respond to changes in pressure of sensor fluid.

USE - Provide sensor device capable of determining attitude of device or rate and direction of its acceleration 3-dimensionally, in industrial manufacturing and robotics as altitude identifier or triaxial sensor for linear motion or acceleration, in navigational systems in land vehicles (inertial navigation), water- and aircraft, in black boxes (where kinetic history of vehicle is to be recorded), geophysics, geotechnique and other areas of construction engineering.

ADVANTAGE - Sensor is capable of measuring altitude of its base which is at rest or in constant motion.

CHOSEN-DRAWING: Dwg.3/4

DERWENT-CLASS: S02 S03

EPI-CODES: S02-B03; S02-G03; S03-C04;

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L5: Entry 1 of 1

File: USPT

Jan 15, 2002

US-PAT-NO: 6339736

DOCUMENT-IDENTIFIER: US 6339736 B1

TITLE: System and method for the distribution of automotive services

DATE-ISSUED: January 15, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Moskowitz; Paul Andrew	Yorktown Heights	NY		
Yu; Philip Shi-Lung	Chappaqua	NY		
Boies; Stephen J.	Mahopac	NY		
Dinkin; Sam	Austin	TX		

ASSIGNEE-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY	TYPE	CODE
International Business Machines Corporation	Armonk	NY				02

APPL-NO: 09/ 539897 [\[PALM\]](#)

DATE FILED: March 31, 2000

INT-CL: [07] [G01 S 5/00](#), [G01 S 13/00](#), [G06 F 7/00](#), [G06 F 17/00](#), [G06 F 19/00](#)

US-CL-ISSUED: 701/29; 701/293.3-, 701/200.215-, 705/13, 705/22, 705/29, 705/28, 705/400, 705/413, 340/988, 340/990, 340/992, 340/995, 340/993, 342/357.13, 342/457

US-CL-CURRENT: [701/29](#); [340/988](#), [340/990](#), [340/992](#), [340/993](#), [342/357.13](#), [342/457](#), [701/200](#), [701/201](#), [701/202](#), [701/203](#), [701/204](#), [701/205](#), [701/206](#), [701/207](#), [701/208](#), [701/209](#), [701/210](#), [701/211](#), [701/212](#), [701/213](#), [701/214](#), [701/215](#), [701/30](#), [701/31](#), [701/32](#), [701/33](#), [705/13](#), [705/22](#), [705/28](#), [705/29](#), [705/400](#), [705/413](#)

FIELD-OF-SEARCH: 701/33, 701/29, 701/30, 701/31, 701/32, 701/200-215, 705/28, 705/13, 705/400, 705/22, 705/413, 705/29, 340/990, 340/988, 340/995, 340/992, 340/993, 342/457, 342/357.13

PRIOR-ART-DISCLOSED:

U.S. PATENT DOCUMENTS

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PAT-NO

ISSUE-DATE

PATENTEE-NAME

US-CL



[4128005](#)

December 1978

Arnston et al.

701/117.3

<input type="checkbox"/>	<u>5107428</u>	April 1992	Bethencourt et al.	701/25
<input type="checkbox"/>	<u>5313388</u>	May 1994	Cortis	701/25
<input type="checkbox"/>	<u>5334974</u>	August 1994	Simms et al.	340/990
<input type="checkbox"/>	<u>5400018</u>	March 1995	Scholl et al.	340/825.54
<input type="checkbox"/>	<u>5442553</u>	August 1995	Parrillo	701/25
<input type="checkbox"/>	<u>5528698</u>	June 1996	Kamei et al.	382/100
<input type="checkbox"/>	<u>5631832</u>	May 1997	Hagenbuch	364/424.04
<input type="checkbox"/>	<u>5648755</u>	July 1997	Yagihashi	340/439
<input type="checkbox"/>	<u>5652911</u>	July 1997	Van Venrooy et al.	395/800
<input type="checkbox"/>	<u>5714948</u>	February 1998	Farmakis	340/961
<input type="checkbox"/>	<u>5758300</u>	May 1998	Abe	701/33
<input type="checkbox"/>	<u>5781101</u>	July 1998	Stephen et al.	340/286.02
<input type="checkbox"/>	<u>5809437</u>	September 1998	Breed	701/29
<input type="checkbox"/>	<u>5815071</u>	September 1998	Doyle	340/439
<input type="checkbox"/>	<u>RE35920</u>	October 1998	Sorden	342/457
<input type="checkbox"/>	<u>5848373</u>	December 1998	Delorme et al.	701/200
<input type="checkbox"/>	<u>6078850</u>	July 2000	Kane et al.	701/29
<input type="checkbox"/>	<u>6140956</u>	October 2000	Hillman et al.	342/357.02
<input type="checkbox"/>	<u>6167255</u>	December 2000	Kennedy, III et al.	455/414

ART-UNIT: 3661

PRIMARY-EXAMINER: Cuchlinski, Jr.; William A.

ASSISTANT-EXAMINER: Mancho; Ronnie

ATTY-AGENT-FIRM: Kaufman, Esq.; Stephen C. McGinn & Gibb, PLLC

ABSTRACT:

A system for the distribution of services, includes a computer device within a vehicle, a vehicle monitoring system coupled to the computer device, a communication system coupled to the computer device for outputting a signal with vehicle monitoring system data, and a remote service center computer device for receiving a signal with vehicle monitoring system data. The method of distributing vehicle maintenance services includes monitoring, by a sensor, a maintenance parameter of the vehicle, communicating the service parameter to a controller, the controller triggering a communications device, sending, by the communications device, a message to a service center, and dispatching, by the service center, a service vehicle based on receiving the signal. In another method, a method of providing service to a vehicle, includes subscribing, by a vehicle owner, to a service, performing the service based on one of an as-needed basis and automatically at any of a home of the vehicle owner, an office of the vehicle owner, and a location specified by the vehicle owner, and billing the vehicle owner for the service rendered to the vehicle.

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L12: Entry 1 of 23

File: EPAB

Jul 26, 2001

PUB-NO: DE010002239A1

DOCUMENT-IDENTIFIER: DE 10002239 A1

TITLE: Method for storing functions lodged with means of transport includes the facility for immediate or later assessment by police, insurance companies and the courts.

PUBN-DATE: July 26, 2001

ASSIGNEE-INFORMATION:

NAME

INGENPAS GUIDO

COUNTRY

DE

APPL-NO: DE10002239

APPL-DATE: January 20, 2000

PRIORITY-DATA: DE10002239A (January 20, 2000)

INT-CL (IPC): G07 C 5/08

EUR-CL (EPC): G07C005/08

ABSTRACT:

CHG DATE=20020202 STATUS=N>A functional memory store is installed in cars, buses, railways, cranes and elevators, acting much like a black box in aircraft. Defined functions and conditions are registered and recorded over a definite time period such as 50 hours. The functional memory store connects electrically to different important functions like wipers, lights, brakes, speedometer, clock and safety belts. A signal transmitter fits on these individual components.

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L12: Entry 2 of 23

File: EPAB

Nov 7, 1996

PUB-NO: DE019516481A1

DOCUMENT-IDENTIFIER: DE 19516481 A1

TITLE: Auxiliary unit for monitoring and storing IC engine controller data

PUBN-DATE: November 7, 1996

INVENTOR-INFORMATION:

NAME

COUNTRY

SCHLEUPEN, RICHARD DIPL ING

DE

ZIMMERMANN, JUERGEN DIPL PHYS D

DE

ASSIGNEE-INFORMATION:

NAME

COUNTRY

BOSCH GMBH ROBERT

DE

APPL-NO: DE19516481

APPL-DATE: May 5, 1995

PRIORITY-DATA: DE19516481A (May 5, 1995)

INT-CL (IPC): G07 C 5/08; G01 K 1/02; B60 R 16/02

EUR-CL (EPC): B60R016/02; G07C005/08

ABSTRACT:

An auxiliary unit for monitoring and storing data relevant to the performance of the electronic controller of an IC engined vehicle is designed to deliver such data for off-line processing by an external computer in the manner of an aircraft black-box recorder. By this means the probability of potential system failure can be periodically assessed and servicing intervals set accordingly. The unit can be conveniently incorporated in the engine controller and has logic programmes for recording in EEPROM the various relevant parameters. Examples of typical programmes are shown covering running time and the duration/value of maximum and minimum temperatures.

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L12: Entry 3 of 23

File: EPAB

Sep 14, 1994

PUB-NO: GB002276006A

DOCUMENT-IDENTIFIER: GB 2276006 A

TITLE: Data recorder

PUBN-DATE: September 14, 1994

INVENTOR-INFORMATION:

NAME

COUNTRY

SANDERS, NICHOLAS RONALD

SWITHINBANK, DAVID MICHAEL

ASSIGNEE-INFORMATION:

NAME

COUNTRY

GEC MARCONI AVIONICS HOLDINGS

GB

APPL-NO: GB09326201

APPL-DATE: December 22, 1993

PRIORITY-DATA: GB09304896A (March 10, 1993)

US-CL-CURRENT: 340/945

INT-CL (IPC): G08C 17/00

EUR-CL (EPC): G08C017/02

ABSTRACT:

CHG DATE=19990617 STATUS=O> A pocketable data recorder 10, carried in a pocket of a pilot, receives and stores in its memory 13 a copy of at least some of the data stored in the main crash recorder memory 3 of an aircraft "black box" flight data recorder 1. As shown the latter includes a radio transmitter 4 and antenna 5, but the transmission may be via an inductive loop around the aircraft cockpit (Fig. 2 not shown). The recorder may store only some of the data stored in the main crash recorder 1. Data may be recorded contemporaneously with the recording in the main recorder, or may be transferred as a high-speed burst in response to operation of the pilot's ejector seat. The memory 13 may comprise any type of non-volatile memory. Where data is transferred in a burst, data may be initially stored in a high speed volatile memory provided in the recorder and thence copied into the non-volatile memory. Data may be continually over-written by fresh data. At least some data, e.g. speech, may be stored permanently. If the aircraft crashes in inaccessible terrain, or in deep water, the data carried by the pilot's recorder may provide sufficient information about the cause of the crash to obviate the need to recover the main crash recorder.

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File: EPAB

Jan 31, 1991

PUB-NO: DE003924341A1

DOCUMENT-IDENTIFIER: DE 3924341 A1

TITLE: Air purifying filter for encapsulated electronic equipment - has particle filtering layer and adsorbent filter layer via which all air entering equipment passes

PUBN-DATE: January 31, 1991

INVENTOR-INFORMATION:

NAME

JEFFERS, ANDREW R

COUNTRY

US

ASSIGNEE-INFORMATION:

NAME

RUITER ERNEST DE

BLUECHER HASSO VON

COUNTRY

DE

DE

APPL-NO: DE03924341

APPL-DATE: July 22, 1989

PRIORITY-DATA: DE03924341A (July 22, 1989)

US-CL-CURRENT: 96/134

INT-CL (IPC): B01D 46/30; B01D 50/00; B01D 53/02; B01J 20/28; H02B 1/56; H05K 7/20

EUR-CL (EPC): H05K007/20; B01D039/16

ABSTRACT:

A filter unit for purifying the air necessary for equalising the press. in encapsulated electronic devices comprises a particle filter and an absorption filter fixed into a suitable opening in the filter housing such that the equalisation of press. can only take place via this route. Pref. the filter housing is made of thin-walled corrosion resistant metal. The filter is pref. constructed such that any condensate formed can drain away through the filter. Pref. the filter housing is conductive and is cylindrical or conical with a dia. of 0.5-2 cm and a length of 1-5 cm. The adsorber layer is e.g. of one or more of 0.1 - 2 mm particulate active carbon, 0.1-1 mm spherical particles of pitch or ion exchange resin, a molecular sieve and metal cpds. with catalytic properties. The adsorber layer is pref. held under light compression in the filter housing by means of elastic foam plugs at each end of the tube to avoid settling and the formation of channels. The foam plugs may be combined with the particle filter layers.

USE/ADVATNAGE - The filter units are incorporated into externally cooled encapsulated electronic devices, esp. aircraft 'Black Box' type flight recorders, which are subjected to changes in temp. and press. whilst in service and therefore breathe. By filtering out any particulate matter and vapours from the air entering the appts. the equipment is given an improved working environment which improves reliability of operation and prolongs the useful life of the device.

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File: DWPI

May 19, 2003

DERWENT-ACC-NO: 2003-421786

DERWENT-WEEK: 200464

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TITLE: Audiovisual monitoring system for use in monitoring areas such as public buildings, vehicles and/or aircraft, includes a means of wireless transmission to a receiving station for data storage and evaluation

INVENTOR: LENGYEL, J

PATENT-ASSIGNEE: LENGYEL J (LENGI)

PRIORITY-DATA: 2001HU-0004740 (November 7, 2001)

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PATENT-FAMILY:

	PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/>	AU 2002339210 A1	May 19, 2003		000	G08B013/196
<input type="checkbox"/>	WO 2003041026 A1	May 15, 2003	E	016	G08B013/196
<input type="checkbox"/>	HU 200104740 A1	June 30, 2003		000	G08B025/08

DESIGNATED-STATES: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
AU2002339210A1	November 7, 2002	2002AU-0339210	
AU2002339210A1		WO2003041026	Based on
WO2003041026A1	November 7, 2002	2002WO-HU00113	
HU 200104740A1	November 7, 2001	2001HU-0004740	

INT-CL (IPC): [G08 B 13/196](#); [G08 B 25/08](#); [H04 N 7/18](#)

ABSTRACTED-PUB-NO: WO2003041026A

BASIC-ABSTRACT:

NOVELTY - An audiovisual monitoring system includes a transmitting station with at least one image recording device (1), coupled via an image contents evaluation circuit (4) and modem (5) to a transmission circuit (7). Changes in image data and data collected from one or more other sensors (3) can be stored locally in storage

means (6) or transmitted to a remote storage and evaluation station using wireless communications.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a method for the audiovisual monitoring of certain areas, wherein the signals received from an image recording device are digitized and transmitted via wired or wireless connection to a data storage and/or display unit.

USE - For use in monitoring certain areas, primarily a public building or a vehicle, including the area and/or surroundings of an aircraft, similarly to a blackbox recorder.

ADVANTAGE - By including wireless communication of data to a remote receiving station, the system on-line audio and visual monitoring of a specified area, including monitoring of specified parameters, for example providing an 'earth black box' for an aircraft, thus ensuring no information is lost and enabling technical malfunctions to be detected by a ground station.

DESCRIPTION OF DRAWING(S) - The figure shows a block diagram of the structure of a possible implementation of the transmitting station of an audiovisual monitoring system.

Image recording device 1

Sensors 3

Image content evaluation circuit 4

Modem 5

Storage means 6

Transmission circuit 7

ABSTRACTED-PUB-NO: WO2003041026A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/3

DERWENT-CLASS: T01 W02 W05

EPI-CODES: T01-D02; T01-N01D; W02-F07M; W05-B01C5; W05-B05A;

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File: DWPI

Mar 14, 2003

DERWENT-ACC-NO: 2003-459603

DERWENT-WEEK: 200344

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TITLE: Aircraft electronic black box recording module structure having first/second rigid structure forming cavity with module and rigid cover placed using shock absorber positioning/assembly/preconstrained.

INVENTOR: GAMBY, B; RUELLE, D

PATENT-ASSIGNEE: TDA ARMEMENTS SAS (TDAAN)

PRIORITY-DATA: 2001FR-0011617 (September 7, 2001)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> <u>FR 2829662 A1</u>	March 14, 2003		000	H05K007/02
<input type="checkbox"/> <u>EP 1292178 A1</u>	March 12, 2003	F	017	H05K007/14

DESIGNATED-STATES: AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
FR 2829662A1	September 7, 2001	2001FR-0011617	
EP 1292178A1	September 6, 2002	2002EP-0292198	

INT-CL (IPC): F16 F 15/08; H05 K 7/02; H05 K 7/14

ABSTRACTED-PUB-NO: EP 1292178A

BASIC-ABSTRACT:

NOVELTY - The electronic module (1) suspension has a first rigid structure (2) and second rigid structure (3) fixed to the first. The two structures form an intermediate cavity (10), with shock absorbers (5 to 8) in the cavity zone. The electronic module is surrounded by a rigid cover (4) and placed in the cavity. The shock absorbers are preconstrained (F) whilst the first and second structures are assembled, each absorber sticking to the rigid cover or the cavity or both.

USE - Black box electronic recording modules for aircraft, ejected from microsatellite, or for penetration munitions.

ADVANTAGE - Simple to put into action, with rapid assembly and is economic.

DESCRIPTION OF DRAWING(S) -- The figure shows a schematic of the electronic module and suspension unit

electronic module 1

rigid structures 2,3

cavity 10

shock absorbers 5 to 8

rigid cover 4

preconstrained shock absorbers F

ABSTRACTED-PUB-NO: EP 1292178A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.1/8

DERWENT-CLASS: Q63 V04 W06

EPI-CODES: V04-S09; V04-T02; W06-B01B6;

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L12: Entry 7 of 23

File: DWPI

Feb 28, 2002

DERWENT-ACC-NO: 2002-264675

DERWENT-WEEK: 200231

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TITLE: Image recording method for camera installed in aircraft, digitizes and compresses image data using signal converter and records in black box

PATENT-ASSIGNEE: KANTO KOKU KEIKI KK (KANTN)

PRIORITY-DATA: 2000JP-0287746 (August 17, 2000)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> <u>JP 2002064809 A</u>	February 28, 2002		003	H04N007/18

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
JP2002064809A	August 17, 2000	2000JP-0287746	

INT-CL (IPC): H04 N 7/18

ABSTRACTED-PUB-NO: JP2002064809A

BASIC-ABSTRACT:

NOVELTY - Several cameras (2) are installed inside an aircraft to record images of instrument panel, measuring instrument, pilot, pilot seat, etc. A signal converter (3) converts the image data into digital data and compresses the digital data. The compressed data is recorded in a black box (4).

USE - For recording data in black box installed inside aircraft.

ADVANTAGE - The actual situation of the aircraft during crash, fire is analyzed easily based on recorded images. Hence, reduces analysis time greatly.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of the image recording device. (Drawing includes non-English language text).

Cameras 2

Signal converter 3

Black box 4

ABSTRACTED-PUB-NO: JP2002064809A

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L12: Entry 8 of 23

File: DWPI

Jul 26, 2001

DERWENT-ACC-NO: 2001-597665

DERWENT-WEEK: 200168

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TITLE: Method for storing functions lodged with means of transport includes the facility for immediate or later assessment by police, insurance companies and the courts.

PATENT-ASSIGNEE: INGENPASS G (INGEI)

PRIORITY-DATA: 2000DE-1002239 (January 20, 2000)

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PATENT-FAMILY:

PUB-NO	PUB-DATE	LANGUAGE	PAGES	MAIN-IPC
<input type="checkbox"/> <u>DE 10002239 A1</u>	July 26, 2001		003	G07C005/08

APPLICATION-DATA:

PUB-NO	APPL-DATE	APPL-NO	DESCRIPTOR
DE 10002239A1	January 20, 2000	2000DE-1002239	

INT-CL (IPC): G07 C 5/08

ABSTRACTED-PUB-NO: DE 10002239A

BASIC-ABSTRACT:

NOVELTY - A functional memory store is installed in cars, buses, railways, cranes and elevators, acting much like a black box in aircraft. Defined functions and conditions are registered and recorded over a definite time period such as 50 hours. The functional memory store connects electrically to different important functions like wipers, lights, brakes, speedometer, clock and safety belts. A signal transmitter fits on these individual components.

USE - For public transport safety and private vehicle safety.

ADVANTAGE - A vehicle sets off when all the different important functions like wipers, lights, brakes, speedometer, clock and safety belts are activated. The police can also control the speed of a vehicle directly without using cameras or radar.

ABSTRACTED-PUB-NO: DE 10002239A

EQUIVALENT-ABSTRACTS:

CHOSEN-DRAWING: Dwg.0/1

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